AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of the Claims

Claims 1 – 54. (Canceled).

55. (New) A method for heating a roller used in the production and/or finishing of a web of material, comprising:

generating heat at least in part inside the roller by combusting a fuel with air or oxygen at least in some regions inside the roller.

56. (New) The method in accordance with claim 55, wherein the web of material comprises one of a paper web or paperboard web,

57. (New) The method in accordance with claim 55, wherein the roller is operated in a manner of a catalytic burner.

58. (New) The method in accordance with claim 55, wherein the heat is generated at least in part on inner heat transfer surfaces of the roller coated with a catalyst.

59. (New) The method in accordance with claim 55, wherein the heat is generated at least in part in at least one space inside the roller one of filled with a catalytic carrier or equipped with a catalytic surface.

60. (New) The method in accordance with claim 55, wherein the fuel comprises a fuel gas.

61. (New) The method in accordance with claim 55, wherein the heat is generated through an exothermic reaction after a mixture of the fuel, comprising a fuel gas, and the air or oxygen is supplied in an adjustable mixture ratio.

62. (New) The method in accordance with claim 60, wherein the heat is generated through an exothermic reaction, and the method further comprises feeding a mixture of the fuel gas and the air or oxygen to peripheral bores in the roller, whereby the exothermic reaction occurs in the peripheral bores.

63. (New) The method in accordance with claim 62, further comprising feeding a heated gas from the peripheral bores via radial ducts to an annular duct filled region near a roller surface.

64. (New) The method in accordance with claim 55, further comprising feeding a mixture of the fuel and the air or oxygen to the roller via at least one rotary inlet.

65. (New) The method in accordance with claim 61, wherein the exothermic reaction occurs in a duct-filled annular region near a roller surface and the method further comprises:

feeding the fuel gas toward the duct-filled annular region through peripheral bores in the roller and radial ducts extending from the peripheral bores; and

feeding the air or oxygen to the duct-filled annular region through a central roller bore via radial ducts extending from the central roller bore.

66. (New) The method in accordance with claim 65, further comprising feeding at least one of the fuel and the air or oxygen through at least one rotary inlet.

65. (New) The method in accordance with claim 61, wherein the exothermic reaction occurs in a duct-filled annular region near a roller surface and the method further comprises:

feeding the fuel gas and the air or oxygen toward the duct-filled annular region through peripheral bores in the roller and radial ducts extending from the peripheral bores; and

discharging waste gases from the duct-filled annular region through a central roller bore via radial ducts extending from the central roller bore.

67. (New) The method in accordance with claim 55, wherein the roller comprises a plurality of heatable zones successively arranged in a direction of a roller axis, and the method further comprises heating at least a part of one of the plurality of heatable zones independently of another of the plurality of zones.

68. (New) The method in accordance with claim 55, wherein the roller comprises a casing rotating around a non-rotatable core, and the method comprises obtaining an exothermic reaction in a region of a surface of the roller core or in a duct-filled annular region of the roller casing.

69. (New) The method in accordance with claim 68, wherein a surface of the non-rotatable core comprises duct structures and the heat is generated through an exothermic reaction occurring in a region of the duct structures on the surface of the non-rotatable core

70. (New) The method in accordance with claim 68, wherein a catalyst is coated at least in part on at least one of the surface of the non-rotatable core or the duct structures are coated with a catalyst at least in part.

71. (New) The method in accordance with claim 69, further comprising dividing the roller into independently heatable axial zones by arranging seals and several feed ducts or bores opening into the duct structures for fuel gas, air, or a mixture of fuel gas and air.

72. (New) The method in accordance with claim 55, further comprising adjusting a reaction or roller temperature by an fuel/air mass flow ratio (stoichiometry).

73. (New) The method in accordance with claim 55, wherein an overstoichiometric combustion or combustion with a surplus of oxygen occurs.

74. (New) The method in accordance with claim 55, wherein the fuel comprises hydrogen.

75. (New) The method in accordance with claim 55, wherein the fuel comprises one of a reformat or an H_2-rich gas obtained from natural gas.

76. (New) The method in accordance with claim 58, wherein the catalyst comprises at least one noble metal.

77. (New) The method in accordance with claim 76, wherein the at least one noble metal comprises at least one of platinum, palladium, or rhodium.

78. (New) The method in accordance with claim 55, further comprising controlling a fuel mass flow via a volumetric flow measurement and a corresponding control valve.

79. (New) The method in accordance with claim 55, further comprising controlling a fuel gas concentration in the air with a fuel gas sensor and a corresponding control valve.

80. (New) The method in accordance with claim 55, further comprising controlling a roller temperature with a roller temperature measurement and a corresponding control valve.

81. (New) The method in accordance with claim 67, further comprising zonally controlling at least one of fuel mass flow, fuel gas concentration in air, and roller temperature.

82. (New) A heatable roller used in the production and/or finishing of a web of material, comprising:

a heating unit structured and arranged on an inside of the roller to combust a fuel with air or oxygen.

83. (New) The heatable roller in accordance with claim 82, wherein the web of material comprises one of a paper web or paperboard web.

84. (New) The heatable roller in accordance with claim 82, wherein the heating unit is formed as a catalytic burner.

85. (New) The heatable roller in accordance with claim 82, further comprising inner heat transfer surfaces coated with a catalyst.

86. (New) The heatable roller in accordance with claim 82, further comprising at least one space on the inside of the roller one of filled with a catalytic carrier or equipped with a catalytic surface.

87. (New) The heatable roller in accordance with claim 82, wherein the fuel comprises a fuel gas.

88. (New) The heatable roller in accordance with claim 82, further comprising an adjustable device for adjusting a mixture ratio for a supplied mixture of the fuel and the air or oxygen for an exothermic reaction.

89. (New) The heatable roller in accordance with claim 82, further comprising peripheral bores and a feed device for feeding a mixture of the fuel and the air or oxygen to the peripheral bores, wherein an exothermic reaction occurs in the bores.

90. (New) The heatable roller in accordance with claim 89, further comprising an annular region filled with ducts near a roller surface and radial ducts structured and arranged to feed heated gas from the peripheral bores to the annular region.

91. (New) The heatable roller in accordance with claim 82, further comprising at least one rotary inlet structured and arranged to feed the mixture of the fuel and the air or oxygen.

92. (New) The heatable roller in accordance with claim 82, further comprising:

peripheral bores with radial ducts extending from the peripheral bores that are structured and arranged to feed the fuel;

a central roller bore with radial ducts extending from the central roller bore that are structured and arranged to feed the air or oxygen; and

a duct-filled annular region near a roller surface in which an exothermic reaction occurs.

93. (New) The heatable roller in accordance with claim 92, further comprising at least one rotary inlet structured and arranged to feed at least one of the fuel or the air or oxygen.

94. (New) The heatable roller in accordance with claim 82, further comprising:

peripheral bores with radial ducts extending from the peripheral bores that are structured and arranged to feed a mixture of the fuel and the air or oxygen;

a central roller bore with radial ducts extending from the central roller bore that are structured and arranged to discharge waste gases; and

a duct-filled annular region near a roller surface in which an exothermic reaction occurs.

95. (New) The heatable roller in accordance with claim 82, further comprising a plurality of zone successively arranged in a direction of a roller axis, wherein the plurality of zones are at least partly heatable independently of each other.

96. (New) The heatable roller in accordance with claim 82, further comprising:

a non-rotatable core; and

a casing being rotatable around the non-rotatable core having a duct-filed annular region,

wherein the heating unit is structured and arranged so an exothermic reaction occurs in a region of a surface of the roller core or in the duct-filled annular region of the casing.

97. (New) The heatable roller in accordance with claim 96, further comprising duct structures formed on a surface of the non-rotatable core, wherein the exothermic reaction occurs in a region of the duct structures.

98. (New) The heatable roller in accordance with claim 96, further comprising a catalyst coated at least in part on at least one of the surface of the non-rotatable core or the duct structures on the non-rotatable core.

99. (New) The heatable roller in accordance with claim 96, further comprising seals and several feed ducts or bores opening into duct structures for at least one of the fuel, the air or oxygen, or a mixture of the fuel and air or oxygen, whereby the non-rotatable core is divided into axial zones at least partly independently heatable from each other.

100. (New) The heatable roller in accordance with claim 82, further comprising a device structured and arranged to adjust a reaction or roller temperature according to a fuel/air mass flow ratio (stoichiometry).

101. (New) The heatable roller in accordance with claim 82, wherein an overstoichiometric combustion or combustion with a surplus of oxygen occurs in the heating unit.

102. (New) The heatable roller in accordance with claim 82, wherein the fuel comprises hydrogen.

103. (New) The heatable roller in accordance with claim 82, wherein the fuel comprises reformat or an H_2-rich gas obtained from natural gas.

104. (New) The heatable roller in accordance with claim 98, wherein the catalyst comprises at least one noble metal.

105. (New) The heatable roller in accordance with claim 104, wherein the noble metal comprises at least one of particular platinum, palladium, and rhodium.

106. (New) The heatable roller in accordance with claim 82, further comprising a volumetric flow measurement device and an associated control valve structured and arranged to control a fuel gas mass flow.

107. (New) The heatable roller in accordance with claim 82, further comprising a fuel gas sensor and an associated control valve structured and arranged to control a fuel gas concentration in the air.

108. (New) The heatable roller in accordance with claim 82, further comprising a device for measuring roller temperature and an associated control valve structured and arranged to control a roller temperature.

109. (New) The heatable roller in accordance with claim 96, further comprising a control arrangement to zonally control at least one of fuel mass flow, fuel gas concentration in air, and roller temperature.

110. (New) The method in accordance with claim 69, further comprising etching at least in part the duct structures on the surface of the non-rotatable core.

111. (New) The method in accordance with claim 69, further comprising milling at least in part the duct structures on the surface of the non-rotatable core.

112. (New) The method in accordance with claim 58, further comprising at least one of rinse coating, dip coating or spray coating the catalyst is produced by rinse coating, dip coating or spray coating.

113. (New) The method in accordance with claim 55, further comprising at least one of shrink-fitting and soldering the casing onto the non-rotatable core.